

ABSTRACT

A thin dielectric layer grown on a silicide layer can be used in many semiconductor devices. Such a grown dielectric, which may be, for example, a silicon oxide, silicon nitride, or silicon oxynitride dielectric layer, can advantageously be used as a dielectric antifuse. Such an antifuse paired with a diode or diode portions can operate as a memory cell, which is unprogrammed before rupture and programmed after rupture. Memory cell types using a dielectric grown on a silicide include Schottky diode portions separated by an antifuse, a Schottky diode separated from an adjacent conductor by an antifuse, and a junction diode separated from an adjacent conductor by an antifuse.